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ABSTRACT

Designed for teachers, the book discusses characteristics of retardation and suggests teaching strategies for retarded children in regular classes. Statistics and definitions of the levels of retardation are described, environmental influences are summarized, and diagnostic factors are reviewed. Discussed are physical, intellectual, and psychological characteristics of the retarded. It is explained that basic skills, social adjustment and occupational competence are the goals of education for the educable retarded. Reviewed is criticism of special class placement, and suggested are instructional methods (such as individualized work centers) for use with retarded children in regular classes. Possible problems for the teacher are seen to include poor student motivation and lack of participation in class. Described are aspects of program content, structure, and evaluation for the educable retarded child in regular elementary school classes. (CL)

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Mainstreaming

THE EDUCABLE MENTALLY RETARDED

by Marjorie Watson

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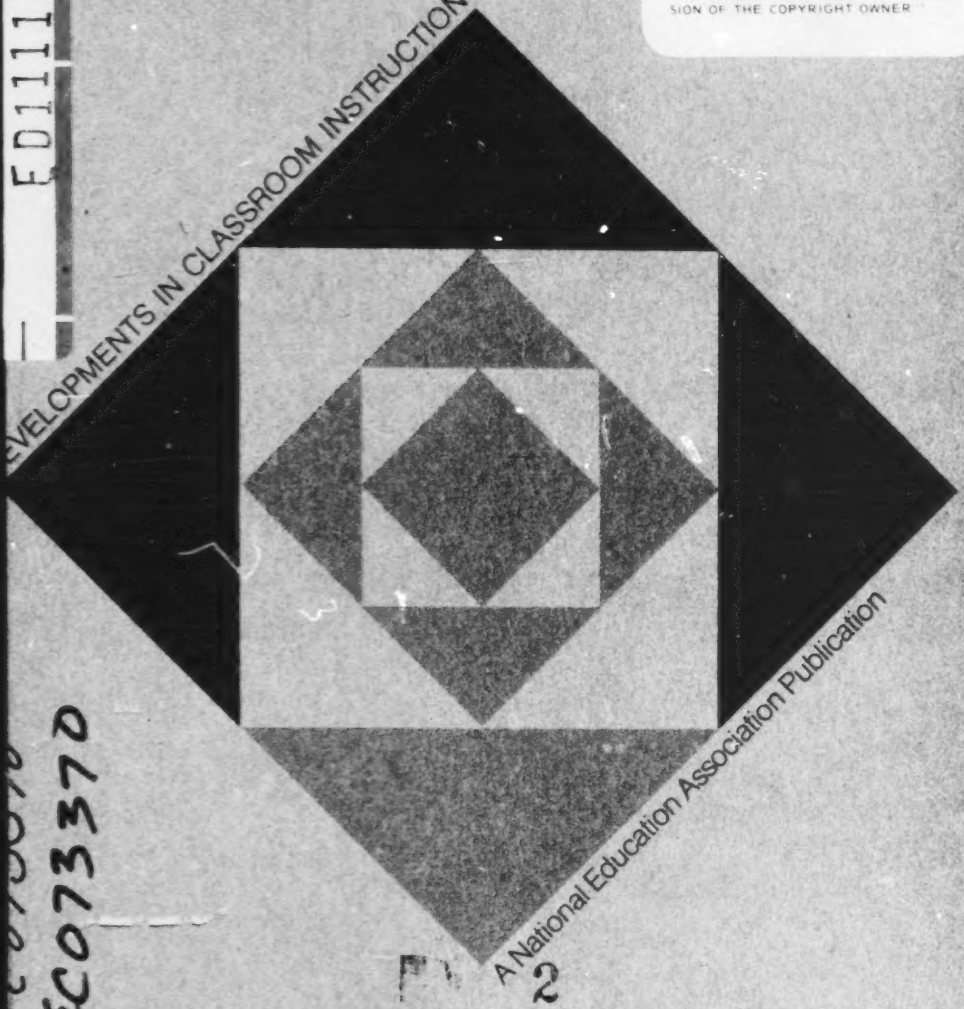

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Mainstreaming

THE EDUCABLE MENTALLY RETARDED

Mainstreaming the Educable Mentally Retarded is an overview of a development in classroom instruction that requires the attention of all educators. Whether the reader is a teacher on the elementary or secondary level, or a part of the administrative staff, this study will be equally helpful in providing background information, planning concepts, and action steps for the school in the local community.

Marjorie Watson, formerly a member of The American University faculty, had three objectives in developing this study. They were (1) to help answer questions teachers may have about the causes and characteristics of retardation; (2) to point out the problems that may arise in a class that includes both retarded and nonretarded students; and (3) to suggest the methods—both psychological and academic—that seem to be the most successful in teaching retarded students in the public schools. Special attention is given to the structure, content and evaluation aspects of the elementary school program.

In Myron Brenton's Introduction, many problems, dangers and inadequacies in mainstreaming handicapped children are pointed out, as well as some of the opportunities. Professor Harold A. Delp, Special Education Administration, Temple University, and Karen Boote, Doctoral Student, analyze the results of a recently completed survey regarding the pros and cons of mainstreaming, in their Preface to this study.

MAINSTREAMING

The Educable Mentally Retarded

Mainstreaming

THE EDUCABLE MENTALLY RETARDED

Marjorie Watson

Introduction by Myron Brenton
Preface by Harold A. Delp and Karen Boote

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National Education Association
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Introduction

by MYRON BRENTON

Current trends, triggered by a variety of social forces, suggest that many, if not most, handicapped children will no longer remain segregated in special classes. Instead, they will attend school in regular classrooms.

When viewed from a statistical perspective, the implications of this change become staggering. Though no hard and fast figures are available, the Council for Exceptional Children (CEC) estimates that there are presently about 7 million handicapped preschool-age and school-age children in the United States. (Consider this as a catch-all figure that includes physically handicapped youngsters, mildly or severely retarded children, and those with severe emotional disturbances.) A survey done by HEW's National Center for Health Statistics, published in 1973, estimates that 2.7 percent of the population under 17 has at least some limitation of activity due to "chronic conditions."

Some 40 percent of all handicapped children receive special schooling—either in segregated educational facilities or in regular public schools. A very small number are in private schools. And the rest—more than 4 million boys and girls—either attend regular schools that do not have the special services they need or they are totally excluded from the educational world.

That picture is not pretty. Yet, from the realistic, if seemingly cold-blooded, perspective of history, significant progress *has* been made in the education of handicapped students—and, over the past quarter of a century, at an ever increasing pace. A century and a half ago, American society simply shunted aside the vast majority of its handicapped children. As late as the Depression years, most school systems were neither philosophically nor financially prepared to offer educational programs for many of their handicapped youths.

But since 1948, the number of handicapped boys and girls receiving special education services of all kinds has increased an as-

tonishing sixfold. Special education itself has blossomed as a full-fledged, respected educational entity; today more than 400 colleges and universities—about five times as many as in 1948—provide training programs for teachers who want to enter the special education field.

In the late 1800's, some "residential schools" were established for the deaf, the blind, and the retarded. These institutions were few in number and sadly lacking in scope and facilities.

There was no institution with the breadth and purpose of New York City's Center for Multiple Handicapped Children, which was funded in 1969 under an ESEA Title III grant. Now funded by the City Board of Education, this remarkable institution has already been validated by USOE as a national demonstration site.

Its 128 students, whose ages range from four to 17, have an amazing array of serious physical and mental problems: impairments of hearing, speech, and sight; aphasia; brain damage; multiple sclerosis and heart disease; and more. The Center has close to 40 teachers and paraprofessionals, plus a staff of medical and clinical specialists. The children—about eight per class—benefit from the latest innovative materials and the intensive programs specifically geared to their individual needs.

Such multifaceted centers can literally change the direction of a child's life. Betty, a youngster with cerebral palsy who is deaf and unable to speak, is an example. Soon after she arrived at such a center from a home for the retarded, it became evident that far from being retarded at all, she is, in fact, a bright and responsive child.

A number of factors are responsible for the changes that have come about in the education of handicapped children:

Parent power. After World War II, mothers and fathers of handicapped children began to organize, tired of the massive neglect their children were facing. They became—and continue to be—politically aggressive, putting pressure on lawmakers, federal and state, to give their children a fair shake.

Federal and state legislative action. Parents lobbied, and politicians got the message. The federal government established special education programs, national in scope, that initially focused on the mentally retarded but now cover children with all types of handicaps. In 1967, USOE established the Bureau of Education for the Handicapped (BEH) to administer these proliferating programs.

Many state legislatures, too, have become active, passing vital legislation with respect to the schooling of the handicapped.

Nearly every state has provisions for reimbursing local school districts at least to some extent for the extra amount it costs to educate a handicapped child.

Court decisions. Spurred by activities in the civil arena and responding to the grim fact that handicapped children were being ignored, even in some states where their education was mandated by law, parents turned to the courts to remedy the situation.

Happily they are no longer fighting alone. "Parents and professionals have joined together to bring suit in federal courts across the nation on behalf of something we're calling 'the right to an education,' " says Alan Abeson, director of the Council for Exceptional Children's State-Federal Information Clearinghouse.

In a landmark decision in 1972 (*Mills* v. *District of Columbia Board of Education*), Judge Joseph C. Waddy ruled that every child, regardless of condition or handicap, has a constitutional right to public schooling. If a particular child's handicap makes it impossible for him to attend regular school, Judge Waddy ruled that the system has to provide or pay for alternative schooling. There is also a due process provision.

Court decisions elsewhere have followed a similar pattern, and more than 30 additional lawsuits on behalf of handicapped children are now anticipated or pending all over the country. In order to head off litigation, several states have acted on their own, legislatively or administratively, with "right to education" rulings. For example, the New York State Commissioner of Education recently ruled that New York City must immediately place *all* handicapped students in appropriate public or private school classes at public expense. Estimates as to the number of boys and girls affected range from 10,000 to 24,000.

Education's emphasis on the individual. Developments in American education generally, such as the concept of prescribing instruction, the move away from tracking, and the mounting concern over the reliability and applicability of intelligence tests, are examples of today's emphasis on the individual. This emphasis has had its effect on the traditional practice in special education of labeling children in terms of their handicaps, a practice which automatically leads to assumptions about them that could well be erroneous.

And so, in some places in the country—in the state of California and in the city of Minneapolis, for instance—movements are afoot to eliminate such labels as "blind" and "retarded" and to look at children from the point of view of their specific and idiosyncratic physical, mental, emotional, and learning problems.

All these factors have played a part in the rapid growth of a phenomenon commonly known as "mainstreaming" in the world of special education. In essence, mainstreaming means moving handicapped children from their segregated status in special education classes and integrating them with "normal" children in regular classrooms.

Mainstreaming is not new, but the current zest for it is. California's new master plan for special education, now awaiting legislative implementation, would emphasize special services for handicapped youngsters in regular classes. Texas has a major program, too. And all over the nation, school districts, big and small, are taking part to some extent in what a CEC official calls "the biggest vogue in the field today."

As responsible educators view it, mainstreaming doesn't simply mean transferring handicapped children to the regular classroom, which often has unfortunate results. It means identifying the individual physical and academic needs of handicapped students; assessing their possible readiness for integration on either a part-time or full-time basis; preparing the mainstream schools for the students' entry; and providing all the backup services required, including resource teachers and facilities.

Proponents of mainstreaming offer the following major rationales for its adoption:

Handicapped children do a better job of achieving, both academically and socially, when their isolation ends. Actually, says Martin Kaufman, a prominent researcher with BEH, some studies support this notion, while others do not. "The results so far are equivocal because of poor methodology," he explains. "The real question, however, is: For whom and under what circumstances is such integration a viable alternative?"

A regular school setting does a better job than a segregated setting of helping handicapped children adjust to and cope with the real world when they grow up. Talking with some children who have been mainstreamed—like Peter R., a teenager in Washington, DC—bears this point out. Peter's legs were amputated when he was young, and he wears artificial ones now. Initially, he attended the C. Melvin Sharpe Health School, a public special education day school, but he has been going to a regular school for the past several years.

"I had more individual attention at Sharpe," he says. Does he miss that? "In a way, but I've adjusted to the regular school, and my treatment here is probably similar to the treatment I will get in the outside world. Sooner or later, I have to learn how to survive

without being pampered. I have more friends now too; they say they admire my spirit, and I fit right in with them."

Exposure to handicapped children will help normal children understand individual differences in people; it will also help to diminish the stereotyping of the handicapped. This is most likely to happen if the normal children are prepared for the handicapped newcomer, especially in the early grades.

Julia Plemmons, a young teacher of the deaf in Spartanburg, South Carolina, says that each time a student of hers is mainstreamed, she goes into the regular class to familiarize the boys and girls with the nature of the new child's handicap. "They all get along real fine," she says. "The kids have taken hold and helped these hard-of-hearing children a lot. Each handicapped child has a buddy, who looks out for him or her."

The New Lyndale School in the heart of Minneapolis practices sound mainstreaming approaches. This elementary school houses a special station for about 70 hearing-impaired children from 25 schools in and around Minneapolis.

Some hard-of-hearing youngsters are already partly integrated with normal-hearing children in kindergarten. At every grade level, there's total integration for non-academic subjects like shop and gym. All handicapped children are mainstreamed in the school for subjects they're proficient in. Some spend the entire day in regular classes, except for one hour a day for intensive language training. Some need little in the way of supportive services in order to succeed in the regular classroom; others, a great deal. Resource teachers work closely with regular classroom teachers; in some cases it's almost a team-teaching situation, but only if the regular classroom teacher welcomes such involvement.

A major goal, says Coordinator Jayne Nelson, is to ready as many children as possible for eventual integration into their home schools. Integration hasn't always been successful especially in the suburban schools where classroom teachers weren't prepared to work with the handicapped boys and girls and where backup services weren't available for them. For these reasons, some students had to return to New Lyndale.

Once federal funds were made available for consultive services, suburban schools were better able to serve the mainstreamed children. But the situation may worsen again if funds are cut back. About 10 percent of the children in the New Lyndale program are mainstreamed each year.

Mainstreaming, which may not be new, is nonetheless still in its infancy. Numerous practical problems—for example, effecting ar-

chitectural modifications to accommodate students in wheelchairs—need to be worked out. The theoretical underpinnings to mainstreaming remain to be perfected. As Frank Hewett of the University of California at Los Angeles aptly puts it, "The legal movement occurred before any kind of inventory was taken, and now we're playing catch-up."

Dr. Hewett is one of the developers of the Madison Plan, a formal mainstreaming model based on a strong conceptual framework. Used for the past five years by the Santa Monica (California) Unified School District, it has been adopted in modified form by several school systems in the Middle West and the South.

Texas has its comprehensive "Plan A," providing for a host of new alternatives to meet the needs of handicapped children, including mainstreaming. This past September, Los Angeles began a comprehensive program, Project Mainstream, for physically handicapped students in regular schools. Formerly, many had access to only limited supportive services in regular classrooms, and some shuttled back and forth between special education and regular classrooms. Unfortunately, the program is operating on a limited basis because of a lack of start-up money.

New York City's Intermediate School 237 (in the Borough of Queens) became a center for physically and mentally handicapped children in 1972 and already has many more applicants than it can handle. The goal is "maximum integration of the handicapped into the mainstream of the schools," says auxiliary principal Milton Chaikin.

The school has had some startling successes. For instance, Jamie, a neurologically impaired teenager, had never been successful in the classroom and wished himself dead. Then he came to IS 237 and was integrated into regular science and math classes. Though he has had some trouble meeting academic demands, his depression has lifted. He has made friends, joined an afternoon chess club, and has generally become much more outgoing.

At USOE's Bureau of Education for the Handicapped in Washington, Dr. Kaufman and some associates are "playing catch-up"—and endeavoring to help handicapped elementary schoolchildren with Project Prime. Their goal is nothing less than identifying the determinants of an effective education for handicapped children in the public elementary schools, determinants that would find applicability everywhere.

Funding, as a number of the above examples suggest, is a serious problem with regard to effective mainstreaming. It's a twofold problem: (a) Courts and legislatures are telling school districts to

provide schooling for all handicapped children, an education which costs an average of from $400 to $800 more than that for normal children, at the very time that voters are slashing school budgets and turning thumbs down on bond issues; (b) many states provide extra aid money for children in special classes, but the mainstreamed children receive not a penny more than the normal children. Overcrowding of regular classes can be a collateral problem when handicapped children are mainstreamed, and already this is a problem in a few districts.

More federal aid is an obvious must. Senate and House bills that would have federal funds underwrite 75 percent of the additional cost of educating handicapped children are currently in the hopper but given little chance of success (and some educators are not happy with all of their provisions).

The training of regular classroom teachers is another major problem. In many instances, these teachers have had hardly any preparation and no training in working with the handicapped.

Even the briefest course in the management of such children is mandatory for teacher certification in only a few states thus far. In-service training on teaching the handicapped is very spotty, though a few programs are being instituted, especially at the school district level. Ironically, the Education Professions Development Act of 1968 has funded some 200 programs for training "regular" educators to teach handicapped children; but budget cuts brought the number down to 15 recently. However, appropriations for 1973–74 will provide funds for new programs. "There's a good deal going on, but not nearly enough," says the University of Minnesota's Maynard C. Reynolds. But he adds, "The best kind of in-service training is the continuing interaction between the regular classroom teacher and the resource teacher, case by case, child by child."

Mainstreaming meets with antagonism too. Some special education teachers and administrators are not keen on it. They fear that the gains made on behalf of handicapped children will be wiped out, and they are not happy about the drastic changes their own accustomed professional approaches will have to undergo.

Regular classroom teachers, who already feel pressured in many ways, often show resistance because they have never taught the handicapped and because they are concerned about their ability to cope with problems that could arise in teaching them. But adequate training and resource support frequently turns resistance to enthusiasm.

Some parents of handicapped children dislike the concept of mainstreaming. The reason, explains Yetta W. Galiber of the Information Center for Handicapped Children, is that "they worked hard to get their boys and girls special education, and they're afraid that now their children will either be dumped into regular classrooms without supportive services or that if the services are available at first, they will vanish the moment city and state budgets are cut."

California has had an experience with dumping of sorts. Four years ago, the state legislature passed a law that had the effect of returning thousands of educable mentally retarded children to regular classrooms—in many cases without sufficient supportive services. Many children had a hard time and eventually were removed to "buffer" classes.

That children will be mainstreamed without backup services is always a danger in times of financial stress. But, Mrs. Galiber says, "When you hide something, you don't really learn how to deal with it. We've hidden those children long enough."

Another, more subtle risk connected with mainstreaming is that it will eventually become too popular—that it will be seen as a cure-all. It isn't that, of course, and never can be. As BEH's Jack Jones says, "It's just a natural part of the continuum of services that are or should be available to handicapped children."

These services must run the gamut from homebound instruction ("Lots of homebound may still be lost in the shuffle," admits another BEH executive) to residential schools to special education centers to a variety of mainstreaming situations to other alternatives. When each child, no matter what his or her physical problem, is assessed as a unique personality; when a host of options is available to meet that child's specific needs; and when no child is frozen in any particular educational setting (including mainstreaming), American education for the handicapped will have come of age.

Yes, there are plenty of problems and dangers and inadequacies connected with the education of handicapped children. But if, however haltingly, mainstreaming is where education for the handicapped is now headed—and philosophically, at least, it seems to be—then there is reason to be optimistic.

Preface
Mainstreaming of the Exceptional: In the Future or Now?

by HAROLD A. DELP and KAREN BOOTE

"Mainstreaming" has been discussed considerably in recent years, but with a variety of definitions. To some it means the abandonment of all special classes and even institutions, with almost all exceptional children being returned to regular public school classes.

On the other hand, to some, the concept of mainstreaming means that children are placed in as normal an educational setting as is practical in each particular case. The Pennsylvania Right to Education consent agreement, for example, states that placement of mentally retarded children is preferable in regular public school classes rather than in special public school classes; and placement of such children is preferable in special public school classes rather than in any other educational setting.

In spite of such obvious legal trends toward forced mainstreaming, many are still questioning the procedures, and a recent college workshop topic on *Pros and Cons of Mainstreaming* implied the question: "Should public schools mainstream exceptional children?"

A just-completed survey (December, 1974) investigated the current utilization of mainstreaming in each of the fifty states, the District of Columbia and six territories as viewed by the respective divisions of special education.

In the survey questionnaire, "mainstreaming" was considered the retention or return of exceptional children to varying degrees of participation in regular classes. State departments were asked whether serious attempts are now being made to mainstream and to estimate the percentage of local school districts which are making a planned effort to mainstream. Each respondent was asked whether his state has present legal provisions for mainstreaming, or, if not, whether there are state department provisions for it. In addition,

each was asked to rank six delivery systems in terms of frequency of use in the state. They were also to indicate the categories of exceptional children mainstreamed in each delivery system.

The survey results, shown below, were based upon responses from 47 of the 50 states and the District of Columbia (92 percent). The response from the territories was not sufficient for the study.

1. Every state indicated, either explicitly or by obvious implications, that serious attempts are now being made in that state to include exceptional children in regular classes to some degree.

2. Of the 47 respondents, 21 indicated that mainstreaming is now mandated by law, although a few cases result from court decisions for the legal status. Furthermore, another 15 states indicated that, while there is no legal mandate, state regulations emphasize the need for mainstreaming.

Thus, 36 of 47 (77 percent) respondents indicate legal or state regulatory provisions for mainstreaming. Several other states indicated various levels of progress toward such provisions. Thus, on this basis, the question of "whether schools should mainstream exceptional children" seems already to be answered: in the great majority of states now, and in more states in the immediate future.

3. Respondents were asked to indicate the approximate percentage of districts making planned efforts to mainstream in each state. Of 45 responses to this item, the data are:

Percentage of Districts	Number of States (plus D. C.)
0 to 10%	4
10 to 25%	6
25 to 50%	9
50 to 75%	13
75 to 100%	13

Thus, 78 percent (35 of 45) of the respondents indicate that more than 25 percent of the districts in that state have planned efforts for mainstreaming, while 58 percent (26 of 45) have more than half of their districts doing this.

4. The ranking of the six service delivery systems from most frequently used to the least:

a. Special classes with regular class time for non-academic work such as physical education, art, music, etc.

b. Regular classes with part-time resource room aid.

c. Regular classes with itinerant teacher assistance.

d. Special classes with part-time in regular classes for selected academic work.

e. Regular classes with consultant or helping teacher available to regular teacher and/or students.

f. Regular classes full-time with no special help.

Financial restrictions in the district or state probably have considerable impact on which methods are actually used.

5. *The frequency of response for involving various categories of exceptional children in these mainstreaming systems was also tabulated. Overall, learning disabled children are most commonly mainstreamed, followed closely by educable retarded, and less closely by emotionally disturbed, hard of hearing, speech impaired and physically handicapped.*

Speech does not have a higher rank, in spite of the number of children involved, probably because itinerant assistance is the single most common method of assistance. Trainable retarded, as would be expected, are the least mainstreamed, although several mentions were made of doing this. Neither the blind nor the deaf appears to be included in many states' programs. Programs for the gifted are less emphasized and, contrary to other groups, most are assigned to regular classes with no special help.

One comment which seems reasonable is that, while every respondent is aware of the concept of mainstreaming, few states seem to have carefully organized programs to provide this system of service delivery to exceptional children. There does seem to be general agreement that, where an exceptional child can function in a regular class, he should be placed there.

While many states mandate this, *how* such mandates are applied in practice appears to vary widely. Whether the child can function in a regular classroom in a specific situation often depends on the commitment to supportive services for the teacher and the child. In several instances, responses stated that mainstreaming "depends on the needs of the child." This may, in fact, simply indicate that mainstreaming is not actually emphasized.

Should we be asking whether mainstreaming of exceptional children should be used "sometimes?" It appears not! Like it or not, it is here now. Regular education and special education *must* begin immediately to ask not "whether" but "how" mainstreaming can best be implemented in each school district and in each school building. Different patterns have been suggested, any one of which will be most appropriate in a given situation.

Districts, and so all school administrators, must accept the reality. Which new regular class teachers should be hired next year to help implement mainstreaming? What in-service training should be developed, in the district and/or through colleges and universities, to prepare present teachers for what must be done? Which delivery systems or combinations will be most effective in the district or in particular buildings? What auxilliary and special services must be developed to make any system of mainstreaming realistic and effective?

Only by asking these and many more questions and beginning to look for answers, will a school superintendent and his staff be ready to manage the demand for services for exceptional children in the district.

1. The Educable Mentally Retarded Student

Until recently, retarded children were placed in regular school classrooms only when the school district could not afford to set up special classes or when there were too few retarded children in a district or school system to warrant hiring special teachers and classrooms on a full-time basis. Special classes, staffed by teachers and supporting personnel who worked almost entirely with retarded students, were considered the most suitable way of educating retarded children, the way that best served retarded and nonretarded children alike. The teacher of a regular class that included one or more retarded children was thought to have a burden that would require extra work from her/him and that would possibly disturb or hinder the progress of the regular students.

The idea of special classes for the educable or mildly retarded has been, like many other educational ideas and methods, reassessed in the past few years. Many educators, particularly those involved in teaching the retarded, now believe that while the idea of special education was well-intentioned, in practice it has not proved to be any more successful than education of the retarded in regular classes (a practice known as mainstreaming). These educators also believe that mainstreaming may actually help to stimulate mildly retarded students, expose them earlier to the challenging real world in which they will eventually have to function, and provide workshops in democratic living that will benefit all students—retarded and nonretarded alike.

Although the concept of mainstreaming was first supported by professional educators, it has also increasingly been favored and occasionally even required by courts that have viewed special classes as dumping grounds used by school systems that were unresponsive to the needs and demands of minority, bilingual, and culturally deprived groups. In many jurisdictions, most notably that of Washington, D.C., the courts have declared unconstitutional the practice of *tracking* or separating students into groups of individuals thought to be intellectually similar on the basis of intelligence tests.

The practice of excluding retarded or handicapped students from public school classes because the system lacks adequate special education facilities has been invalidated by a number of court

decisions in Pennsylvania, Virginia, Washington, D.C., and other areas. The Washington decision, which may well have a rational effect, states that each of the retarded and handicapped children on whose behalf the suit was filed

> is to be provided with a publicly-supported educational program suited to his needs, within the context of a presumption that among the alternative programs of education, placement in a regular public school class is preferable to placement in a special school class.[21]

The implications of such decisions are clear: teachers can expect to find retarded children in their classes more often than in the past. This report, therefore, is designed to answer questions that teachers might have about the causes and characteristics of retardation, the problems that might possibly arise in a class that includes both retarded and nonretarded students, and the methods—both psychological and academic—that have seemed to many to be the most successful in teaching retarded students.

2. What Is Retardation?

Retardation is not as simple to define or identify as such physical conditions as a broken leg or deafness. A definition of retardation rests upon some concept of intelligence which, as teachers know, can be determined and measured in many ways, some based upon the teacher's observation and intuition, some based upon a variety of intelligence tests, many of which have been increasingly attacked as inadequate and/or culturally biased. A look at two definitions indicates some of the ways intelligence and retardation can be viewed.

Oliver P. Kolstoe, who has written about both concepts of retardation and appropriate teaching methods, defines intelligence as "a neurophysiological capacity to develop more complex thought processes as a function of maturation and environmental interaction."[14]

Another frequently used definition refers to mental retardation as "subaverage general intellectual functioning which originates during the developmental period and is associated with impairment in adaptive behavior."[25]

Many scholars point out that neither intelligence nor retardation is entirely inherited. Although the argument over the question whether intelligence is mainly inherited or mainly the product of environment has raged with increasing ferocity recently, most moderate psychologists and educators take the position that while a certain amount of intelligence (genotype) may be inherited, another amount (phenotype) is "the result of the interaction between the genotype and the environment."[20] It is impossible, however, to make a flat statement that a given amount of intelligence is inherited and another given amount is environmentally stimulated, because retardation, environmental pressures, stimuli, and the like may affect each individual differently. Children born with similar degrees of retardation may reach different levels of achievement depending upon their home environments and educations.

Until recently, most identifications of the retarded were made on the basis of classic IQ tests. Terman's categories were frequently used:

IQ 80–90—low average (14.5 percent of the population)
IQ 70–80—borderline defective (5.6 percent)
IQ below 70—mentally defective (2.63 percent).[13]

Kirk's categories attempt to relate IQ and individual educational potential:

IQ 80–90—slow learner
IQ 50–79—educable mentally retarded (or mildly retarded)
IQ 30–55—trainable mentally retarded (or moderately retarded)
IQ below 25–30—profoundly or severely mentally retarded (or totally dependent).[13]

Approximately 10 to 12 percent of all American school-age children are handicapped, either physically, emotionally, or intellectually. Because of increased attention to preschool children—attention that started with the Head Start programs in the 1960's—more and more handicapped young children are being identified.[25] In any randomly selected group of 1,000 school-age children, one will probably be totally dependent because of profound mental retardation, four can be classified as trainable mentally retarded children, and 25 can be considered educable mentally retarded.[13] Studies by the Bureau of Education for the Handicapped of the U.S. Office of Education indicate that, in 1975, approximately 1,375,000 children between the ages of 5 and 18 can be considered educable or trainable mentally retarded students.[8] In the 1960's, approximately half of the nation's mentally retarded children received special education services; the others were either excluded from public education altogether or were placed in regular classes.[5]

3. The Causes of Mental Retardation

There are two major kinds of causes of mental retardation. *Endogenous* retardation is caused by physical factors such as chromosome damage, lack of proper nutrition or medical care during fetal development, trauma during birth, defects resulting from illnesses on the order of encephalitis and meningitis, and so forth.[3] The child who is retarded because of an endogenous cause "shows no indication of rising above that [retarded] level of function. . . ."[23]

Exogenous retardation, on the other hand, is caused by factors outside the child or not inherent in the child's physical makeup. Such a child may be retarded because of an inadequate diet or poor medical treatment, lack of stimulation in the environment, and the like. While the potential for development of the endogenously retarded child is definitely limited, the exogenously retarded child often can be stimulated or educated to reach a higher level of functioning if the causes of the retardation are removed or corrected.[23]

One link between retardation and environment is clear: while totally dependent or trainable mentally retarded children are found to the same degree in all socioeconomic classes, educable mentally retarded children are much more common in lower income families, where inadequate nutrition and medical treatment are common, than in middle and upper income families.[13] Poor children are not inherently intellectually inferior to the children of more affluent families, but they may become victims of the deprivation in their environments.

It is important to note that while children from lower income families may not perform as well on standard intelligence tests as the general population, their level of performance may be related more to cultural factors—attitudes towards testing, schools, etc.—than to innate intelligence. Teachers should be careful not to label as retarded those children who could be considered "six-hour retardates"—children who are unable to perform adequately in a rigid academic situation but who are capable of functioning satisfactorily in their home environments.[12] Educators and society at large have become increasingly aware that too many intelligence tests and other standards by which children are measured are de-

signed to measure the skills and aptitudes white, middle class American children learn at home. Such tests are often totally inadequate gauges of the skills and potentials of children who, because of race, ethnic background, isolated living conditions, or poverty, do not learn the middle class skills and values measured on the tests.

There have also been many tragic instances where children who functioned competently in the languages (such as Spanish and Chinese) spoken in their homes have been labeled retarded because they have not been able to understand English-language intelligence tests. Such children are not retarded; rather, they are mislabeled by the rigidity of a testing system that does not reflect the diversity of American culture.

4. Diagnosis of the Educable Mentally Retarded Child

An ever-increasing variety of intellectual and psychological tests are available to help teachers and counselors in diagnosing and evaluating students at all intellectual and emotional levels of development. The most famous, as well as the oldest, of all intelligence tests is the Stanford-Binet, which is based upon the work done in France by Alfred Binet early in the twentieth century. Binet worked from the assumption that all children had similar experiences, were subject to similar influences, and therefore should be able to do similar tasks at similar ages. Binet developed a series of graded tasks and assumed that a brighter person was someone who did more tasks at a specific age than an average or slower learner.[8]

Binet related chronological age and level of performance of graded tasks to develop an intellectual rating. IQ terms were actually developed by William Stern, a German psychologist, using the following ratio:

mental age (MA)/chronological age (CA) × 100 = IQ

Thus, a six-year-old could be said to have the mental age of a four and one-half year-old or an eight-year-old, depending upon the number and type of graded activities the child could successfully complete.[8] The typical educable mentally retarded child might have a chronological age of eight but a mental age between four and six, or an IQ of 50 to 75.[13]

The American version of the IQ test, the Stanford-Binet test, has a number of drawbacks. Because it tests only verbal skills, children with language handicaps (including children for whom English is not a first language) are penalized. It does not test nonverbal or nonacademic skills, such as motor skills and mechanical ability, and reveals nothing about a student's personality, social maturity, or motivation.[24] Because it is based upon experiences and skills that the formulators of the test think common to average, middle class American children, the Stanford-Binet also contains a "large amount of social and cultural bias."[25]

IQ tests have limited usefulness. Their correlation coefficient for predicting academic achievement varies from .50 to .70, but the tests are almost useless for predicting "social adjustment or vocational adjustment."[16]

Another popular series of intelligence tests used in the United States are the three sets of Wechsler tests:

1. Wechsler Pre-school and Primary Scale of Intelligence for Children—CA four to six and one-half
2. Wechsler Intelligence Scale for Children—CA five to 15
3. Wechsler Adult Intelligence Scale—CA 16 to 60.[15]

The Wechsler tests attempt to counterbalance the overly verbal orientation of the Stanford-Binet tests. The verbal sections of the Wechsler tests include the following categories:

1. General (rather than specific) information
2. Comprehension
3. Arithmetical reasoning
4. Memory for digits
5. Similarities
6. Vocabulary.[15]

The performance section of the Wechsler tests requires the child to use manipulative skills in coping with the following tasks:

1. Picture arrangement
2. Picture completion
3. Block design
4. Object assembly
5. Digit symbol.[15]

Most intelligence tests such as the Stanford-Binet and the Wechsler are designed to be given, ideally, to students on an individual basis. Because very few school systems can afford to pay the large number of test administrators required and because administering such individual tests can be extremely time-consuming, many school systems use group intelligence tests to test whole classes or grades. Then only those children who do poorly on group tests are given intensive individualized tests. Unfortunately, however, group tests are not completely reliable measures of intelligence. While the results of 80 to 90 percent of the tests are within 5 to 10 percent of individualized test results, the results for the other 10 to 20 percent of the children tested usually seriously deviate from the results obtained from individualized tests. Thus

group tests should be used for screening purposes to find those students who need more intensive testing before they are diagnosed and placed within the school system.[8]

No matter how well-intentioned, categories used to determine diagnosis and placement can work either to the benefit or to the detriment of any child. Through early diagnosis and placement in special classes or special activities, some children can be spared possibly harmful experiences with repeated failure and can receive beneficial additional academic and psychological help and support.[5] However, especially in an extremely competitive school system or culture, the diagnosis of retardation and placement in special classes or activities can stigmatize those who deviate from the accepted standard and possibly increase their feelings of incompetence.[25] Ideally, the problem of combining the best academic environment with the best emotional environment should be solved on an individual basis for each student.

Because the educable mentally retarded student, unlike a more severely retarded child, is generally unnoticed in infancy and early childhood, diagnosis and testing become an important function of the school. The first symptom is generally poor learning development in school; there is rarely an obvious prior sign of pathology.[13] Therefore, the child who seems to learn or develop at a slower than usual rate in preschool or in the early primary grades should be tested as soon as possible. This testing should include a thorough physical examination to determine whether the student's difficulties are due to a physical problem, such as poor eyesight or hearing, instead of retardation. Subsequent placement should depend upon medical, social, and psychological information and advice as well as the results of intelligence tests.[13]

Identification should be made on the basis of adaptive behavior as well as intellectual functioning. The teacher, counselor, or other adult involved should remember that adaptive behavior is based upon three variables: maturation, learning, and social adjustment.[25] The Adaptive Behavior Scales, published in 1969 by the American Association on Mental Deficiency, can be useful in evaluating educable mentally retarded children. The two scales, for ages three to 12 and 13 to adult, both come in two parts:

1. Maintenance of Personal Independence and Daily Living
2. Personality and Behavior Disorders.[20]

Regardless of the number and types of tests used, all the testing should be done by qualified and licensed professionals as indi-

viduals or as members of committees. No child should be placed in a special class or given special treatment unless and until parental consent is obtained, both to avoid any possibility of litigation and to ensure that the home is supportive of the school's efforts.[25] Children should be reevaluated at least every three years, preferably more often, so any modifications in placement of assignment to special programs can be made as quickly and smoothly as possible.[18]

5. Characteristics of the Educable Mentally Retarded

The educable mentally retarded child differs from the nonretarded child in three ways: physically, intellectually, and emotionally.

1. Physical characteristics. Unlike severely and trainable mentally retarded children, educable mentally retarded children rarely differ physically in any obvious way from their normal classmates.[13] Their motor proficiency may be somewhat inferior and their motor skill development, both on the gross level (e.g., jumping) and the fine coordination level (e.g., finger dexterity) may lag behind that of normal children.[20] The teacher may have to develop and emphasize sequential motor skill programs for such students, who may not have received adequate physical training in the past.[20] In most cases, educable mentally retarded children are able to compete in athletics and other physical activities with nonretarded children without any major problems.

2. Intellectual characteristics. Capacity and rate of learning are two areas that clearly separate the educable mentally retarded from the normal child. Most educable mentally retarded children are initially diagnosed in school when it becomes obvious to their teachers that they perform on a considerably lower academic level than most of their classmates.

Experiments indicate that the retarded have learning curves similar to those of normal students, but the retarded learn at a much slower rate.[4] Retarded children generally perform poorly on verbal and nonverbal intelligence tests, have poor memories, and have poorly developed generalizing, conceptual, and perceptual abilities.[13] They have short attention spans, experience difficulty in transferring the skills and information learned in one area to another area, and may be poorly motivated.[20] (This last characteristic is related to the educable mentally retarded child's psychological characteristics.)

Until recently, educators thought that the educable mentally retarded did little incidental learning, that is, that they rarely learned one skill or piece of information as a by-product of learning

something else. Current studies indicate that the educable mentally retarded do engage in a considerable amount of incidental learning, and that earlier studies were based upon children who had relatively narrow life-styles.[15] It is therefore possible that educable mentally retarded children can be expected to increase their incidental learning more in intellectually integrated classrooms where they are exposed to more types of information, skills, materials, and people than they would in segregated special education classes.

3. Psychological or emotional characteristics. The educable mentally retarded child can loosely be defined as *maladaptive* because of the realization that she/he cannot succeed in standard ways and measure up to standard goals and therefore becomes "somebody who can" in maladaptive ways. The mentally retarded child does what she/he can, although the actions sometimes are negative.[23] The mentally retarded child has been described by one sensitive writer as one who

> is alone in an enemy land whose purpose is to torment him by constantly hurting his pride. . . . That concept is further reinforced because his congenital skill deficiencies continually make him "odd man out," creating bitter jealousy of the success he sees other children achieve.[23]

The gap between the normal expectations of society (as represented by parents, teachers, and classmates) and the child's capacity to perform is at the root of many of the behavior problems of the educable mentally retarded. Plagued by a poor self-image, conditioned to expect that all of her/his actions will result in failure, the educable mentally retarded child often has a short attention span and a very low tolerance for frustration.[13] The educable mentally retarded child is often happier playing with children of similar mental age than with children of chronological age because she/he is intellectually on the level of the younger children.[13] When forced to compete with intellectual superiors or when pressured to meet standards that are not within the educable mentally retarded child's grasp, the child may resort to one of three types of unsatisfactory behavior:

1. Simply withdraw, emotionally and intellectually, from activity in the classroom.
2. Become passive-resistive by refusing to participate actively within the class and then engaging in surreptitious destructive behavior.

3. Become an obtrusive behavior problem whose acting out, hyperactivity, and extreme distractibility disrupt the activities of the rest of the class.[23]

While such problems may occasionally discourage the teacher who is also trying to respond to the wishes and needs of a variety of other children, the sensitive teacher will realize that the educable mentally retarded child is saying, through actions, that she/he cannot cope and needs to be channeled into activities that offer a greater chance of experiencing success and self-worth. It is important for the teacher to remember that the educable mentally retarded are not inherently behavior problems, but that "the behavior deviations are caused by a society that places upon the children, directly or indirectly, demands which they cannot achieve."[5] As a consequence, educable mentally retarded children are more likely to have poor self-concepts, lack confidence, and "fail to employ the capability they do have because of their anticipation of failure."[20]

6. The Goals of Education for the Educable Mentally Retarded

Educable mentally retarded children can never reach the same level of achievement as nonretarded children. They can be expected to achieve, at most, at approximately three-fourths the rate of nonretarded children.[13] The educable mentally retarded can, however, be expected to achieve certain minimum goals that will allow them to participate as fully as possible in society:

1. The educable mentally retarded should be able to reach minimum academic goals and develop basic skills and knowledge.
2. The educable mentally retarded should be capable of enough social adjustment to function independently in a community.
3. The educable mentally retarded should be able to develop minimum occupational skills to be able to be fully or partially self-supporting as adults, although most of the jobs the educable mentally retarded will be capable of holding will be unskilled or semi-skilled.[13]

While the schools must develop the academic and intellectual potential of the educable mentally retarded to the fullest (as the schools should for all students), teachers of the educable mentally retarded know that their students must develop additional skills if they are to be able to function independently in the normal world. These skills have been defined as—

1. Social competence—the ability to get along with others
2. Personal adequacy—the ability to live with oneself
3. Occupational competence—the ability to earn at least part of one's living.[13]

In addition to developing these skills, the schools must work to eliminate socially unacceptable attitudes or behavior patterns that may hinder the educable mentally retarded person when she/he is required to function in the normal world.[26] The child who makes inappropriate social responses, for example, must learn to restrain her/his impulses and observe at least the major social conventions.[20]

In order to develop the necessary levels of competence, the educable mentally retarded must meet minimum standards in at least six categories of skills or instructional outcomes:

1. Arithmetic competencies
2. Social competencies
3. Communications skills
4. Safety competencies
5. Health competencies
6. Vocational competencies.[5]

Before she/he can become a responsible adult, the educable mentally retarded child must develop the skills needed to live independently and to hold a job. The educable mentally retarded must acquire minimum information and skills necessary for home management and participation in family life and must be able to deal with other people, maintain good health and grooming practices, manage time, and use public transportation.[16]

The educable mentally retarded should also be able to hold a job, although that job will probably be relatively unskilled. Although the traditional demand for unskilled labor on farms and in factories has declined over the past few years because of the tremendous increase in industrialization and automation, many jobs in the expanding service area of the economy (for instance, in fast food franchises and motels) can be filled by relatively unskilled people. However, even these jobs require minimum intellectual levels and skills, including reading and math skills above a 2.5 level, acceptable personal and interpersonal behavior, minimum vocational skills, and productive attitudes towards work.[6] Work-study and vocational programs in junior and senior high schools can provide some of the necessary training and can help ease the educable mentally retarded's transition from the relatively sheltered world of school to the more competitive adult world. The elementary school, however, must make the educable mentally retarded child aware of the importance of work and the skills and attitudes needed to become a productive member of society.

7. Mainstreaming v. Special Classes

Until the 1960's, most educators, including those concerned largely with the problems of retarded students, felt that it was better—for students and the school system alike—for educable mentally retarded children to be in special classes than in regular classes. Special classes in buildings with regular classes developed out of the special schools for retarded and/or physically handicapped children that were first established in the United States in the middle of the nineteenth century.[25] Such special classes enabled school systems to make economical use of supervisors and specialists in the education of the retarded,[23] allowed teachers to group and regroup their students flexibly on the basis of the students' handicaps and skills, and made it possible for teachers to involve the students in special activities that might not have been either suitable or necessary in a class composed largely of nonretarded students.[23] It was thought that special classes provided a positive psychological environment for the educable mentally retarded. Supposedly, surrounded by other children on their own intellectual and emotional levels, they did not feel as alien or inferior as they would in a regular class in which they were a small minority surrounded by a larger group of nonretarded, more advanced students with whom they could not compete successfully.[23] Thus the most common form of special education for the educable mentally retarded generally came to be special, isolated classes housed in regular schools, although in some cases the children spent part of their time in regular classes and part in special classes.[8]

The reaction against special classes developed in the 1960's as more and more educators and social activists came to two realizations. The first was that special classes did not seem to improve the skills and learning rates of those labeled retarded. The second was that children were often being labeled as retarded or as having learning problems for reasons that were political and social, rather

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than educational. The combination of these two ideas is best stated by William Anderson in a study published by the U.S. Office of Education:

> There is disquieting evidence that these [special] classes serve as a holding operation for many racial and economically deprived students who could receive a better education sharing classrooms with other students whose talents and backgrounds vary greatly.[2]

Special education classes are increasingly critized on the grounds that they do not do what they were designed to do: provide educable mentally retarded children with education that enables them to fulfill their potential. The numerous studies on the effectiveness of special education classes reach contradictory conclusions. However, the very existence of studies that conclude that the educable mentally retarded do better in regular classes than in special classes demand consideration.[2] The contradictions themselves demand close reappraisal of the philosophy of special education classes. Some critics of special classes posit that such classes are inherently inferior to regular classes because students are stigmatized by being placed in special classes.[25] According to other critics, tracking systems that route slow learners and educable mentally retarded children into special classes "tend to work to the disadvantage" of such students.[6] These critics claim that in ungrouped or integrated classes slow learners are stimulated by more capable students and receive extra help from the other students as well as from the teacher.[6]

While debate about the educational efficiency of special classes may have led to some changes in school-system provisions for educable mentally retarded students, the major changes have come about because of court suits such as the ones cited at the beginning of this report. As more and more educators, parents, and other people concerned with the welfare of educable mentally retarded and handicapped children came to feel that special classes were sometimes used as dumping grounds for culturally disadvantaged, bilingual, minority, or low social-status students, the question of class placement became a legal issue as well as an educational one.[6]

8. Mainstreaming and Regular Class Activities

The teacher of a previously homogenous class of nonretarded students may feel a certain amount of trepidation about the effect of an educable mentally retarded child on the rest of the class. Because special classes have been the preferred method of educating educable mentally retarded children, the teacher of a regular class often has no model to follow when the need arises to organize an integrated class.[22] In most school systems, however, the teacher has available numerous resources and supportive services. A mainstreamed educable mentally retarded student might spend part of a day (or term) in a temporary diagnostic classroom or, if emotional problems too adversely affect the student's reaction to a regular class, in a specially oriented crisis classroom.[25] Teachers' aides, counselors, psychologists, and itinerent specialists in fields such as reading and arithmetic can also be of invaluable assistance to the teacher who must respond to the differing levels and demands of a mixed class.

One trend that the teacher can make use of when planning for an integrated class is the open classroom. While the stereotyped rigid classroom where everyone read the same paragraph or drew the same picture at the same time probably never was as prevalent as the mass media sometimes make it appear, individualized instruction and open classroom arrangements increasingly provide new and useful models for the teacher.

The ever-increasing variety of individualized instructional material, including programmed workbooks and readers with simple vocabularies but subject matter geared to older students' interests and concept levels, also makes it easier for today's teacher to choose the most appropriate materials for each student in the class, regardless of the range of skills, abilities, and interests.

Improved educational materials, changed class structure, and increased use of teachers' aides, team teachers, and supportive personnel mean that it is now possible (although not always easy) for a teacher to arrange a stimulating and smoothly run classroom in which numerous different activities and learning experiences take place simultaneously. One method frequently used is the individualized work-centers approach, in which various parts of the

classroom contain materials for various subjects such as arithmetic, science, and reading. The students proceed from one subject (and one area of the room) to another, depending upon their skills and the teacher's plans. Such a method is useful for students of all ability levels because each student can work at her/his level and speed and not be rushed or kept back by the facility or problems of other students. Such learning centers can also foster self-reliance and initiative,[14] which are especially important attitudes for the educable mentally retarded student, whose fear of failure may cause overdependence upon adults.

The individualized open classroom can also reduce the educable mentally retarded student's sense of inadequacy because working individually the learner is not in open competition with more advanced children. While it is true that students quickly learn to recognize the skills and weaknesses of their classmates, a classroom organized around individualized work-centers and personal learning experiences can do much to minimize the importance of group standards and to encourage each student to work up to her/his fullest potential.

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9. Possible Problems for the Teacher

Even the most experienced teachers know that there are times when generally successful methods and materials are not appropriate for certain students, that certain students (not necessarily educable mentally retarded or handicapped) do not always respond in predictable or desirable ways, that certain students either are not accepted by most of their classmates or have destructive effects on the class as a whole. Therefore, the teacher who has not previously taught educable mentally retarded students may be especially worried about how such students will respond when mainstreamed into a regular class. While individualized instruction, work-centers, and programmed materials may help the teacher to respond to the differing intellectual skills and needs of the educable mentally retarded, the teacher should realize that these children may have varying psychological effects on the rest of the class.

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Previously held theories that educable mentally retarded students are likely to be rejected by nonretarded students in the same class are being reassessed. Some recent studies indicate that educable mentally retarded students are often accepted to the same degree as nonretarded students and that when educable mentally retarded students are rejected or described in negative terms by their classmates the degree of rejection or dislike is not always considerable.[10] When such students are rejected, the cause may not be intellectual retardation as much as immature or hostile behavior rooted in the retarded child's sense of inadequacy and fear of failure. When such problems arise, the teacher has several options: the educable mentally retarded child can receive psychological help, can be temporarily shifted to another classroom, or can be geared towards activities that she/he finds fulfilling and that bring a certain degree of approval or tolerance from the other students. The teacher might attempt to include, as part of regular class activities, projects in which the retarded child can participate on the same level as the nonretarded students. Games, gross motor activities, songs, and some arts and crafts projects are examples of areas in which many educable mentally retarded students can function at the same level as nonretarded students.[5]

Motivation may be the major academic problem the teacher of an educable mentally retarded student has to deal with. Because previous experiences may have taught the child that she/he is likely to fail whenever she/he attempts to function at the level expected of most children of the same age, the child may fear the teacher as an enemy who sets impossible standards.[23] When confronted with a new task, the child's major goal may be to avoid failure, not to achieve success.[18] The educable mentally retarded child rarely trusts her/his own skills or ideas and looks to others—teachers, classmates—or may seek clues in the physical environment for help in problem solving. The child is thus outer-directed and more likely to imitate others than to initiate her/his own actions or try to think through a problem individually.[18]

Thus the effective teacher quickly realizes that before the educable mentally retarded child can learn factual material or academic skills, the child must acquire enough confidence in her/his own skills that she/he is not afraid to participate and wants to learn. The child needs emotional reassurance and approval, the feeling that the teacher thinks she/he is worthwhile, before intellectual success can become adequate motivation for further in-

tellectual activity.[18] Once the teacher has won the child's confidence on an emotional level, the teacher must design an intellectual environment that is reassuring and stimulating. Activities should be sufficiently within the child's abilities so that she/he can succeed without being trivial or meaningless. It is important that the activities not be too easy; the student will develop a sense of competence only when it is realized that she/he has succeeded at a task that required some thought and work.[18] For example, praising an educable mentally retarded learner for cleaning a chalkboard may be important and useful, but the teacher should be certain to provide more stimulating activities as well so that the child can experience new and progressive successes. Regardless of the type of activity the student completes, the teacher should provide positive feedback in the form of approval and/or help as soon as possible in order to reinforce the correct responses.[13]

All new material should be introduced in a concrete, not an abstract, manner, and made as relevant as possible to the young person's experience. The material should be introduced or presented in as detailed a manner as possible. Programmed materials, including workbooks and various types of teaching machines, that break subjects down and present them in small bits of information can be very useful. Such workbooks often provide correct answers immediately after a problem; if such feedback and reinforcement are insufficient motivation for some students, the teacher might want to add rewards (e.g., candy or a chance to play a new game) until academic success itself is sufficient motivation.[18]

In addition to individualized or programmed materials, the teacher may sometimes find certain games useful. Such games can be used, especially in the early primary grades, to encourage students to use their senses, to observe the world around them, and to develop a sense of independence.[24] The teacher should be careful, however, not to rely on games to such an extent that the student fails to realize that she/he is supposed to be learning something useful in addition to enjoying the game.[13] The great danger here is that the child may fail to realize that the skills or material learned in one activity or game can be transferred to another activity, one that is not necessarily a game.

Much material can best be learned by the educable mentally retarded student through repetition and overlearning.[13] Because the learner so often lacks confidence in her/his own skills and fails to see the connection between a fact (2 + 2 = 4) and a situation (2 eggs and 2 eggs), the teacher should include problem-solving

activities that encourage the transfer of skills and information to new situations and that require the student to use inductive reasoning.[9]

Class stores and sociodramas or plays requiring the students to choose their own courses of action can be helpful in training the retarded student to apply material learned in one field or to see the use of certain skills. While educators have become increasingly interested in ways of encouraging as much independent thought in retarded students as possible, the teacher will quickly learn to modify or minimize any situation or demand that might frustrate the retarded student and increase her/his sense of inadequacy, thereby destroying the desire to succeed.

10. Structure, Content, and Evaluation in the School Program (Elementary)

As mainstreaming of educable mentally retarded students in the public schools becomes more universally implemented, it is reasonable to believe the differences in needs of elementary and secondary students will be more fully studied than they have been at this time. In this report, therefore, special attention is being given to the structure, content, and evaluation aspects of the elementary school program. There are, of course, basic approaches begun on the elementary level that are expanded and further developed on the secondary level. Thus, much of the material considered here as elementary might be adapted for secondary students. (*The Educable Mentally Retarded Student in the Secondary School*, published by NEA as a part of What Research Says to the Teacher series, considers some of these extensions in more detail.)

The educable mentally retarded student with a CA of six to nine (MA of three to six and one-half) may well be placed in a regular class where she/he can receive additional help from resource or itinerent teachers or aides. The elementary curriculum has two major purposes: the "improvement of general living skills" and the "development of proficiency in the understanding and use of academic skills."[5] These are not separate areas. Rather, they are skills clusters that can be taught and learned in integrated activities that broaden the child's view of herself/himself and the surrounding world. Through the primary program, the child may develop—

1. More mature and precise use of language
2. Understanding of simple cause and effect relationships
3. Increased awareness of and contact with the world around her/him.[8]

These skills and ideas should be encouraged through a curriculum that includes the following components:

1. Mental and physical health awareness
2. Social experiences

3. Reading readiness activities
4. Visual and auditory discrimination activities
5. Language and speech activities
6. Motor skills that encourage eye-hand coordination
7. Quantitative activities
8. Activities involving common materials that require the student to connect meaning and skills.[8]

One common method of organizing and presenting such material in a typical day is to spend the morning on group and individual activities based on concrete academic skills and training, and then to devote the afternoon to unit work that requires the student to apply to larger activities the skills stressed in the morning.[16]

The intermediate program, for children of CA 9 to 13 (MA six and one-half to ten and one-half), should encourage students to apply the academic skills they have learned to real-life situations. It should also stimulate students to classify the information and concepts presented to them in order to encourage the type of independent judgments they will probably be required to make as adults.[16] As in the primary program, the intermediate class might spend mornings on academic work and afternoons on units designed to broaden their awareness of the world around them, including their neighborhoods, cities, and regions. Such activities should be designed to help the students become aware of cause and effect relationships and of their rights and responsibilities as citizens.[16] These programs, which attempt to develop basic academic competencies and encourage educable mentally retarded children to see themselves as capable of functioning in the adult world, are a far cry from the arts and crafts projects and watered-down academic programs that dominated special education in the past.[19] This is so because they are based on the idea that retarded children do possess the potential to learn to function as independent, self-sufficient (and generally self-supporting) adults, despite their never being capable of coping with complex academic work or jobs.

However, the teacher of the educable mentally retarded quickly learns that they will not be able to learn at the same pace as the other children in the class. For one thing, educable mentally retarded children tend to have relatively short attention spans. Therefore, the teacher may have to structure the child's program so that she/he is not required to work at any particular activity for more than 15 or 20 minutes at a time. The teacher may also want to alternate academic and physical activities in order to relieve the

educable mentally retarded child's tension and fatigue. Such a schedule is often also good for nonretarded children, particularly in the early primary grades, as for the retarded students. It should also be kept in mind that the educable mentally retarded child who is frightened by rapid change may need to do the same activity at the same time every day, for instance, reading at 10, followed by music at 10:30.[7]

The teacher who finds a compartmentalized academic program composed of subject blocks—reading, arithmetic, science, etc.—too rigid and schematic may prefer to arrange her/his class around a life-problems curriculum, in which academic skills and information are taught through units on social or life problems, such as ways of communicating, the types of jobs people in the immediate community perform, and so forth.[9] Regardless of how the teacher arranges the class, whether the children work in small groups on large units or individually at work centers, such arrangements merely express how the teacher thinks the students can best learn the desired academic and social goals and skills.

Reading readiness and reading programs are probably the most important academic part of the primary program for the educable mentally retarded child. The teacher may note that the child does not have as large an oral vocabulary or as skillful a use of language as the nonretarded child. Speech defects are more common among educable mentally retarded children than among normal children, largely because retarded children may have fine motor coordination problems that make it difficult for them to say certain sounds fluently, if at all. Speech therapy may be useful in these cases.[13]

The limited oral vocabulary of the educable mentally retarded child may be a result of lack of stimulation in a home environment where, because of the pressures of poverty and poor living conditions, other members of the family have neither the time nor the enthusiasm needed to encourage verbal communication. Before the teacher can even begin to consider teaching the educable mentally retarded child to read, the teacher should attempt to expand the child's oral vocabulary and increase her/his use of language. Teachers of nursery schools and primary grades are often extremely skillful in designing activities that encourage children to express themselves through speech and to become aware of the richness of the English language. Sharing (or show-and-tell), dictating stories to adults (often parents or teachers' aides), participating in brief plays, and playing word games are some of the most obvious tech-

niques the teacher can use to broaden the child's vocabulary. The alert teacher will quickly perceive student interests, skills, and weaknesses, individually and collectively, and create appropriate activities. The techniques of such successful television programs as *Sesame Street* and *The Electric Company* can inspire many teachers to experiment with new methods of increasing the child's awareness of language.

Activities designed to broaden the educable mentally retarded child's vocabulary should be accompanied by activities that encourage auditory and visual discrimination. As in many other areas of the primary program, games that require the child to observe, classify, and remember material can be very helpful. Very often, such games do not require special equipment; for example, the teacher can ask the children to look around the room and point out items starting with a specific letter. Similar games can be used to make children aware of shapes, colors, textures, etc. Children may also learn to read some words according to the whole word method almost accidentally.[16] Labels—"books," "boys," "girls," etc.—can be useful at this point.

The educable mentally retarded child can usually learn to read on a third or fourth grade level, even though it may take her/him years longer than nonretarded children to do so. This level, however, is crucial, because it represents the baseline needed to read directions or instructions in much of the adult world. In our increasingly technological society, it is also the minimum reading level needed to hold many otherwise unskilled or semiskilled jobs.[8]

Reading, as teachers of both retarded and nonretarded children know, is one of the most complex and controversial of all academic subjects, one that arouses intense partisans who are convinced that their methods, and only their methods, are the most effective ones. However, most specialists in the education of retarded children feel that no one method is superior to others when teaching reading to educable mentally retarded children.[13] The teacher must remember that reading is not quite the same as translating or interpreting Morse code, because the child must learn two separate subjects: (1) the names of the signs (letters and words) and (2) what they mean.[16] All teachers have encountered children who have learned to "read" (actually say) certain words but do not know what they mean. Therefore, the best approach to use when teaching reading to the educable mentally retarded child is a combination of several approaches. The teacher might want to start with a basic 75-word sight vocabulary and then teach students both

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to sound out words, using a basic phonics system, and to figure out what a word means from the context in which it appears. With more advanced students, the teacher might want to include a study of word endings, prefixes, suffixes, compounds, and so forth.[16] Regardless of the methods used, the teacher should select or design materials that repeat new words more often than do most other primary reading materials; the educable mentally retarded student, who learns at a considerably slower pace than the nonretarded student, needs all the repetition and reinforcement possible.[13]

Increased awareness on the part of many groups in society of the problems of retarded, handicapped, culturally deprived, and/or minority students in recent years has led to a considerable improvement in the types of basic reading materials available both in schools and in libraries. There is no longer any reason for the retarded student (or even the poor reader) who is several years older than the regular students in the class or who is merely reading on a much younger level to have to be bored or embarrassed by stories geared towards average first or second graders. Many publishers now regularly issue individual books and attractively designed anthologies designed to appeal to the older child who is a poor reader. The 10-year-old reading on a first or second grade level can read stories about sports, clubs, mysteries, or other activities that are more sophisticated than those in many primary readers. These books are rarely labeled "for slow readers" and the child is not stigmatized as she/he may have been when the only available material dealt with early primary subjects. These books can often increase children's awareness of the world around them, encourage their imagination and thought processes, and give them the all-important feeling of success and competence necessary to motivate a child, especially the educable mentally retarded child.

Regardless of the materials and the methods used, the retarded child and the poor reader often do better in reading activities conducted on a one-to-one basis than in group activities. Some studies have indicated that an educable mentally retarded student may learn more when tutored by another, somewhat more advanced educable mentally retarded student than when taught in a small group by a resource teacher. This is largely because flexible pacing and individualized instruction are easier to obtain on a one-to-one basis than in a small group.[11] Such a tutoring program might also be psychologically rewarding to the tutor, who derives a feeling of competence and success from being able to teach someone else.

Writing instruction should be started with the educable

mentally retarded student later than with the nonretarded student. At the preprimary level (CA under 6), the teacher can develop activities to increase motor development and eye-hand coordination. Large crayons are generally the best tools for the child; when the child has developed more skill, she/he can switch to large pencils.[24] At the primary level, the teacher should encourage fine motor development. At the intermediate level, the child will probably be ready to learn to print lowercase letters.[19]

The place given to arithmetic in the curriculum for the educable mentally retarded child has undergone a paradoxical shift recently. While small, relatively inexpensive calculators are becoming common possessions in many middle and upper class families, and while large calculators and computers are doing more and more complex mathematical projects, so that the individual probably is not required to do as much computation as in the past, more and more aspects of everyday life are now being expressed in mathematical terms. Thus, once the weather report stated there would probably be some rain at night or rain was unlikely on a given day; today that same weather report says there is an 80 percent chance or a 10 percent chance of rain.[18] The educable mentally retarded child must be taught to deal with relatively abstract concepts such as percentages in addition to computation. The child can be taught to master basic computation skills on her/his mental age level, but such a child will probably function below expectancy when required to do mathematical reasoning or problem solving.[13] Some educators claim that it is not difficult to teach math to the educable mentally retarded if the teacher avoids abstract problems and work requiring reading skills beyond the student's level. The inherent numerical structure and patterns of arithmetic are concrete enough for the child to master.[18]

The arithmetic curriculum includes several subject areas that can be introduced even at the preprimary level in simple forms. Thus, at the preprimary level, the teacher can introduce concepts of time, including before and after, quantity, and rudimentary formal skills. At the primary level, simple addition and subtraction and the use of money can be added. At the intermediate level, drill can be used to improve computational skills; measurements and the idea of the relationship between money and change can also be introduced.[19]

Obviously, much of the arithmetic curriculum can quickly be related to real life and made concrete to the educable mentally

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retarded student. A play store can be used to teach concepts of measurement (including quantity and size), money, and making change. It can also be used to teach time and attitudes towards time and work; the student who must "work" a certain period of time in the store (e.g., 15 minutes) has a concrete reason to learn to read a clock. The type of store—food, clothing, records, hardware, etc.—is unimportant but can be used by the imaginative teacher to teach ideas about nutrition, consumerism, wise use of leisure time, and so forth. Such play stores are also examples of integrated activities in which the educable mentally retarded child can participate almost as fully as the nonretarded child.

The science curriculum, like the mathematics curriculum, should be designed to teach educable mentally retarded students the basic skills and information they will need as adults. Abstract concepts are not particularly important or useful; the how and why of daily living—weather, seasons, plants, animals, food, health, electricity, machines—are important. Again, much of this material can be taught through role playing, as well as through simple experiments.[3] The teacher can choose from an enormous variety of material, much of which is designed to be used by the student so the student can learn about cause and effect relationships and the proper handling of materials.

Social studies, like the science and mathematics curricula, should be used primarily to further the child's knowledge of the world around her/him. This is especially important for children who come from culturally or economically deprived homes; such children may well be expert in functioning in their immediate environments, but they are strangers in a strange land when they are required to deal with government facilities or requirements and standards of what seems to be a different culture. On the primary level, the curriculum should be centered around the student's local environment—the home and the immediate community. As soon as the child is ready, the curriculum should be expanded to introduce the child to public services such as police and fire stations and libraries. Again, possibly through role playing, the child can learn not only how to use such facilities but when to use them—how to report a fire, etc. Children may also have to be taught how to use telephones and public transportation.[24]

All of these concepts are necessary parts of modern living. Nonretarded children learn much of this material incidentally in the course of their daily lives. For the educable mentally retarded

child, who does not learn as quickly and who may be isolated either because of family poverty or well-intentioned overprotectiveness, the social studies curriculum assumes added importance.

Those parts of the elementary school curriculum that are traditionally (and unwisely) downplayed—music, art, and physical education—are especially important for the educable mentally retarded child. Properly chosen physical education activities can be used to increase both the child's gross and fine motor skills. Further, because the educable mentally retarded child is generally not as underdeveloped physically as intellectually, physical activities and games in which she/he can compete on almost the same level as the other children can do much to improve the child's self-image and sense of competence. It is even possible that such participation will raise the child's status in the eyes of classmates.

In addition to providing a sense of accomplishment and pleasure that may be all too rare in a failure-prone world, the art and music curricula have important benefits—both psychological and academic—to offer the retarded child. Expressive motor and creative activities such as singing, dancing, and drawing can provide outlets for tension. Through these means the child can possibly express and work out feelings that might otherwise be channeled into unacceptable classroom behavior. From an academic and intellectual point of view, music activities can improve physical coordination and auditory discrimination,[19] while art activities can help develop eye-hand and fine motor coordination.[19]

Because the educable mentally retarded child learns more slowly and with more difficulty than do other children, the teacher may find it difficult to determine whether any progress is being made in achieving educational goals. The teacher may in fact also question whether she/he is accurately evaluating and grading the progress that is being made. In such circumstances outcomes charts can be of assistance.[6] The teacher can make up detailed charts or lists of skills for the child to master or goals for the child to reach and then note when the child has reached the desired outcome. These charts contain highly detailed items referring both to academic skills (e.g., "can print name") and to social attitudes and practice (e.g., "can wait for her/his turn when playing a game"). Anecdotal records, in which the teacher describes the way a child reacts to a certain situation or problem, can help the teacher modify and individualize the curriculum to suit the educable mentally retarded child.[3]

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Appendix

State Policy Regarding Due Process and Mainstreaming: October 1, 1974*

State	*Due Process*			*Mainstreaming*		
	Statues	*Regulations*	*None*	*Statutes*	*Regulations*	*None*
Alabama			X	X		
Alaska			X			X
Arizona			X			X
Arkansas	X					X
California	X[1]					X
Colorado	X	X				X
Connecticut	X	X				X
Delaware		X				X
District of Columbia			X			X
Florida	X	X		X		
Georgia		X				X
Hawaii			X			X
Idaho			X			X
Illinois		X			X	
Indiana		X				X
Iowa	X			X		
Kansas	X					X
Kentucky			X			X
Louisiana			X			X
Maine			X			X
Maryland			X			X
Massachusetts	X	X		X	X	
Michigan		X			X[2]	
Minnesota			X			X
Mississippi			X			X
Missouri	X	X		X	X	
Montana			X			X
Nebraska			X			X
Nevada			X			X
New Hampshire			X			X
New Jersey			X		X	

State	Due Process			Mainstreaming		
	Statues	Regulations	None	Statutes	Regulations	None
New Mexico		X				X
New York			X			X
North Carolina	X					X
North Dakota			X			X
Ohio			X		X[3]	
Oklahoma			X			X
Oregon			X			X
Pennsylvania		X[4]	X		X[5]	
Rhode Island			X			X
South Carolina			X		X[6]	
South Dakota			X			X
Tennessee	X			X	X	
Texas			X			X
Utah			X			X
Vermont			X			X
Virginia			X		X[7]	
Washington		X			X	
West Virginia			X			X
Wisconsin	X					X
Wyoming			X			X

1. Educationally handicapped and mentally handicapped only.
2. *State plan* is authority for mainstreaming.
3. 5. 6. "Program standards" are authority for mainstreaming.
4. Mentally handicapped only.
7. Guidelines mandate mainstreaming provisions in local five-year plans.

*This chart was prepared by The Council for Exceptional Children's State-Federal Information Clearinghouse for Exceptional Children. Current state special education statues and regulations were analyzed and direct contact was made with selected state directors of special education. Reprinted with permission, courtesy of The Council for Exceptional Children, Reston, Virginia.

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